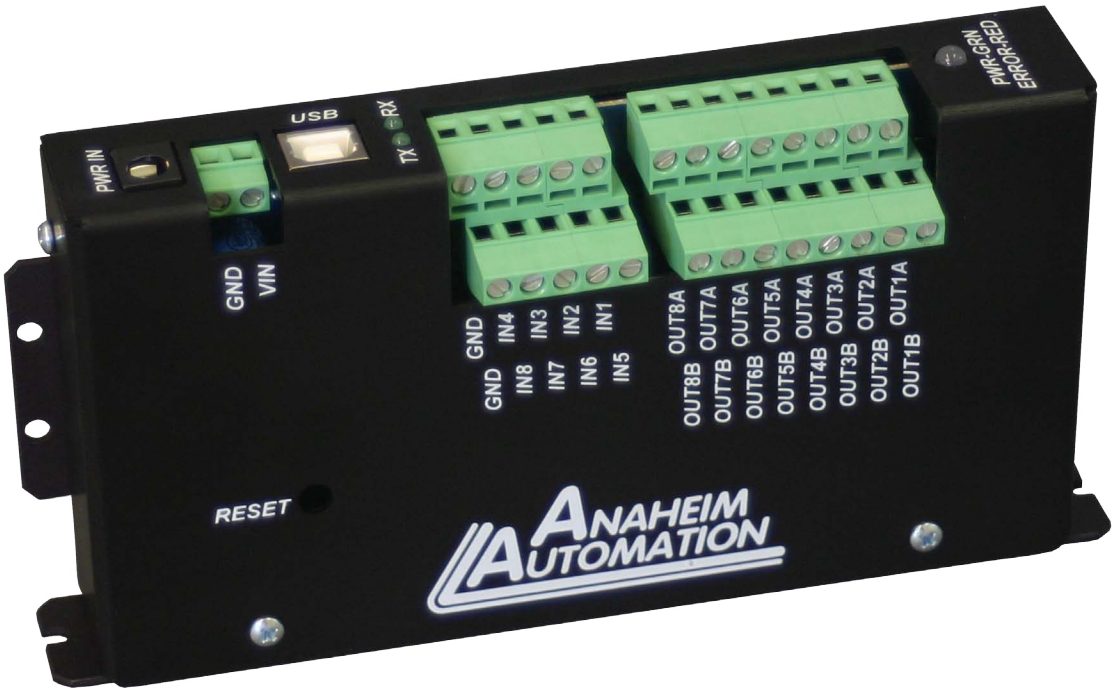
PCLIO-0808-USB
USB Controlled IO Board

User's Guide



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Section 1: Introduction

The PCLIO-0808-USB is a programmable input and output module integrated with the ability to auto start and store 2KB of program memory. It provides flexible, independent or grouped control of 8 relay outputs, which can be toggled based on input conditions. The PCLIO can program all 8 inputs to be active low or high enabling the use of both NPN or PNP sensors. The easy-to-use Windows software, SignIOwin, can be used to directly control/read an I/O status and store a program on the PCLIO.

Anaheim Automation has made it simple for users to connect without a hassle. The PCLIO-0808-USB eliminates the need for bulky DB9 cables; all programming is done through a USB-to-USB Mini for the user's convenience. A full set of ASCII commands are provided, which will allow for custom development. The Windows software, SignIOwin, is available for download via www.AnaheimAutomation.com. This software provides users with an intuitive method of programming all aspects of the PCLIO.

Description

The PCLIO-0808-USB has a high-level programming command set including: branching, looping, conditional statements, time delays, text transmission and interrupts. This command set enables clients to store programs to control all aspects of machine functionality. The PCLIO can be utilized in monitoring, machine operation and/or interaxis coordination.

The PCLIO has a built-in programmable reset circuit. Reset is either automatic on power-up, or can be initiated by pressing the external reset button. The software allows users to write, change and store programs in the PCLIO to run on power up. SignIOwin also allows the user to upload the current program stored in the PCLIO for editing, viewing and saving.

Methods of Communication

The PCLIO-0808-USB connects to PCs through USB behaving as a COM port which communicates at a baud rate of 38,400 bps. This means the user can configure Hyperterminal, HMI's, PLC's and various other devices with the proper settings and establish a Master/Slave relationship. Anaheim Automation has developed fully-functioning Windows software to communicate and program the PLCIO for the user's convenience.

Axis Selection

Each PCLIO-0808-USB is addressed using a programmable register allowing the ASCII Master to address up to 99 PCLIOs. The default axis is "0." To change the axis, use the SignIOwin software or the "~" command. To verify or check the axis, use the SignIOwin software or the "%" command. The axis designation is nonvolatile and will remain the same until changed by the user.

Status LED

When powered and operated properly, the status LED will be green. When an error occurs, the LED will change to RED, and an error code will be generated in the error code register. To read and clear the error with the software, click on the "Verify Parameters" button located in the "Real Time IO Window" of the SignIOwin software. To read and clear the error while in "Direct Mode," use the error code "!" command. Once the error has been read and cleared, the LED will return to green and the error code register will be cleared to 0. Refer to the table on page 23 for a complete list of the error codes.

Technical Support

Should you require additional assistance, please refer to the Troubleshooting section located in the back of this manual (Page 22). If further assistance is needed, contact the factory directly to speak with a technical engineer. If possible, have this manual in hand. It is often helpful to have the controller connected to a computer with the software installed.

Electrical Specifications

Power Requirements With No Connections:
9VDC to 12VDC @ 200mA

Operating Temperature:
0 to 60 degrees C

Inputs (TTL-CMOS):
Active High
Logic “0”: 0 to 0.8VDC
Logic “1”: 3.5 to 5VDC
Active Low
Logic “1”: 0 to 0.8VDC
Logic “0”: 3.5 to 5VDC

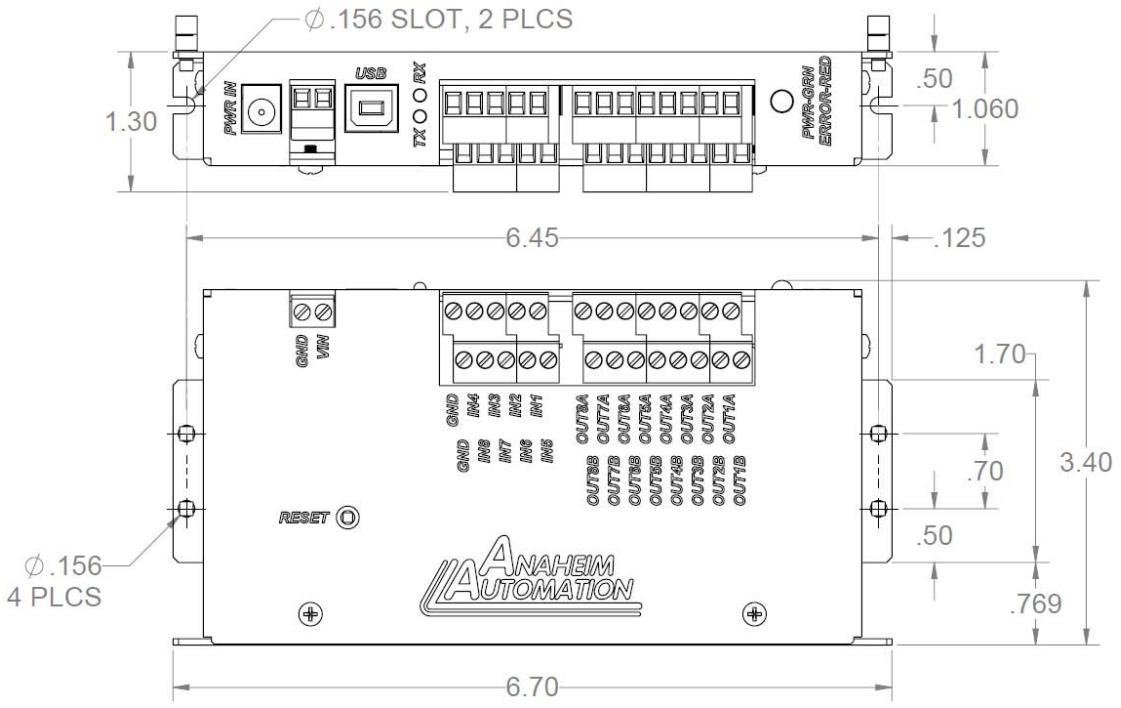
Outputs (8 programmable):
3 Amps Out
Normally Open
SPST Relay

Ordering Information

The table below lists the products available from Anaheim Automation, Inc. These products include those covered by this manual, along with supporting cables and devices. We are continually adding new products to our line, so please consult Anaheim Automation, Inc. or its representatives for information on the latest releases.

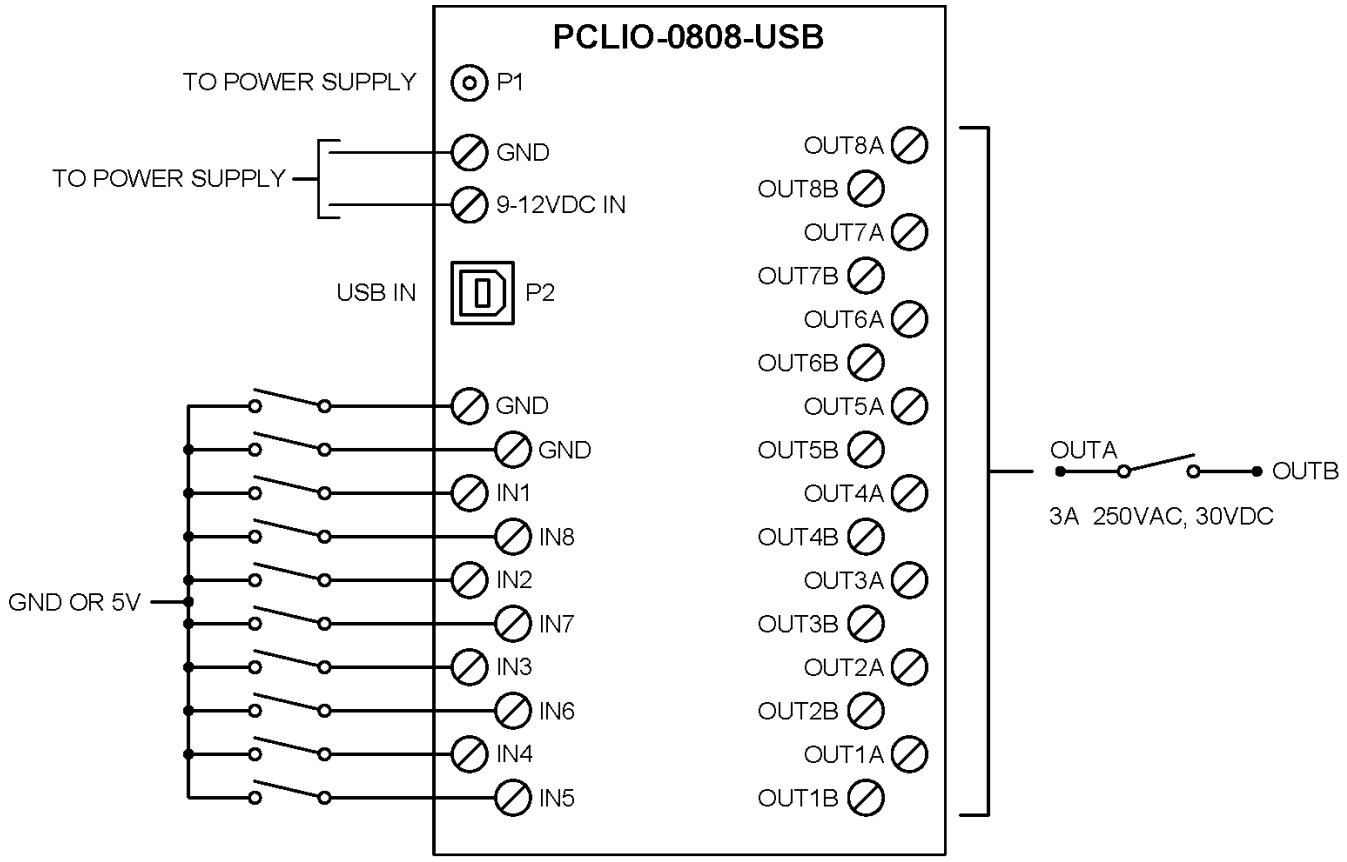
Part Number	Description
PCLIO-0808-USB	Featured Bluetooth IO Board
AAUSB-AB-6	Communication Cable
AA3264	Class 2 Transformer, Input: 120 VAC 4.5W, Output: 9VDC 500mA

Dimensions



*All units are in inches

Wiring Diagrams



Terminal Descriptions

Position	Description - Power
1	8-24VDC Power Input
2	Ground Power Return

Position	Description - Inputs
1	Input 1/Analog 1
2	Input 2/Analog 2
3	Input 3/Analog 3
4	Input 4/Analog 4
5	Ground
6	Input 5/Interrupt 1
7	Input 6/Interrupt 2
8	Input 7/Interrupt 3
9	Input 8
10	Ground

Position	Description - Outputs
1	Output 1A
2	Output 2A
3	Output 3A
4	Output 4A
5	Output 5A
6	Output 6A
7	Output 7A
8	Output 8A
9	Output 1B
10	Output 2B
11	Output 3B
12	Output 4B
13	Output 5B
14	Output 6B
15	Output 7B
16	Output 8B

Connector Descriptions

Position	Description - Power
P1	9-12VDC Power Input
P2	This connector is for the USB communication and is labeled USB.

Section 2: Functions

Inputs: All inputs can programatically be set to active low or high as a group. The inputs are TTL and may be used to initiate a machine cycle, for inter-axis coordination (in stored program mode), for operator intervention, for sensing a machine condition such as out of stock, or wait for temperature to be reached, etc. A grounded input will read a “0” and a high input will read as a “1” when active high; vice versa when active low. There are 4 analog inputs that can return a 10-bit value which can be used to monitor oven temperatures, fluid pressure and fluid flow rate. Along with these 4 Analog inputs the PLCIO-08080-USB is also equipped with three interrupt inputs that can trigger various routines stored in memory.

Pull Up/Down Inputs: This instruction sets the active state of all the inputs. For instance, if the inputs are set to active high, a 5 volt signal will illicit an On status for that input. If a 0 volt signal is applied, the the input will display an Off status. If the inputs are set to active low, a 5 volt signal will display an Off status for that input. If a 0 volt signal is applied, the input will show an On status.

Outputs: Eight outputs are provided per axis. Outputs are of relay type which are perfect fits for applications such as coolant valves, air cylinders, or, with the correct interfacing, any electronically controlled device. The outputs can drive all types of common peripheral power loads, including lamps, solenoids, LED’s, printer heads, and heaters. For inductive loads, it will be necessary to connect a clamping diode (refer to specification section) from the output to the power source in order to provide adequate fly-back protection.

If/Then Statements: The if/then statements are conditional based on the values preset in the program. The user can either test each individual input or all inputs at once. If the input or input register matches the given value or values, then the program will execute the next line. If the input or input register does not match the given value, the program will skip the next line and execute the following line. An open input is read as a 1 if in active high, and a grounded input is read as a 0 if in active high; vice versa if in active low.

Branching or Goto Statements: The goto instruction will have the program jump to the given label. If no label is in the program, it will error when trying to send.

Return from Subroutine: This function can be placed anywhere in the program as long as a goto statement has been already executed. The program will jump back to the last goto statement encountered and execute the next line in the program.

Inner and Outer Loop: The loop instructions allow the user to loop a program a variable number of times. The program will loop to the designated label location of the program. However, the label must always be at a lower line number than the loop instruction itself. The user can only nest inner loops inside an outer loop. An inner loop cannot be nested inside an inner loop, or an outer loop inside an outer loop. Multiple nested inner loops are allowed in one outer loop.

Analog On: This instruction enables the analog features of the PCLIO-0808-USB module on pins 1-4, the user may enable either 1, 2, 3 or 4 analog inputs. If analog inputs are on, the user will automatically receive an On when the inputs are verified, regardless of whether or not anything is connected to that pin. Input 2 cannot be enabled simply as an analog input; input 1 must also be enabled for input 2 to be enabled.

Read Analog Inputs: This instruction allows the user to retrieve the current voltage level at the specified input. Note: if the user wants to read the voltage level of an input, that input must be activated to be of analog type to avoid getting an error. The voltage value returned will be from 0 to 5 volts and the resolution is up to 400mV.

Interrupts: This instruction will run a stored interrupt routine when triggered by the specified interrupt. Only pins 5-7 can operate as interrupt pins and are activiated according to the Active High/Low state of the input register. When the input is activated, the program will stop what it is doing and immediately jump to the specified label. If the user wishes to use this interrupt as a regular digital input, the interrupt must be turned off.

Digital Inputs: This instruction turns the currently activated analog inputs on pins 1-4 back into digital inputs. This works very similar to the Analog On command because the user may only have 1, 2, 3 or 4. For instance, if all 4 analog inputs are on but now the application only requires one, turning 3 digital inputs on will result in input 1 as an analog input, and 2, 3 and 4 will be converted back to digital.

Equal to: This instruction utilizes either the current analog input value along with a user-defined input voltage to compare to or it utilizes a user register[1-4] and a user-defined value to compare to. If using the equal command with analog inputs, the user will enter a value between 0 and 5.00V (only two numbers after the decimal place and one before) that will be compared to the current value at the specified input. If the current value of the analog input is equal to the user-defined voltage then the next instruction will be executed else the instruction will be skipped. If using the equal command with user registers this command will read the current status of the selected user register and compare it to the user-specified value, and if equal, the next instruction will be executed else the next instruction will be skipped.

Greater than: This instruction utilizes either the current analog input value along with a user-defined input voltage to compare to or it utilizes a User Register[1-4] and a user-defined value to compare to. If using the greater than command with analog inputs, the user will enter a value between 0 and 5.00V (only two numbers after the decimal place and one before) that will be compared to the current value at the specified input. If the current value of the analog input is greater than the user-defined voltage, then the next instruction will be executed else the instruction will be skipped. If using the greater than command with user registers this command will read the current status of the selected user register and compare it to the user-specified value, and if greater than, the next instruction will be executed else the next instruction will be skipped.

Less than: This instruction utilizes either the current analog input value along with a user-defined input voltage to compare to or it utilizes a User Register[1-4] and a user-defined value to compare to. If using the less than command with analog inputs the user will enter a value between 0 and 5.00V (only two numbers after decimal place and one before) that will be compared to the current value at the specified input. If the current value of the analog input is less than the user-defined voltage, then the next instruction will be executed else the instruction will be skipped. If using the less than command with user registers, this command will read the current status of the selected user register and compare it to the user-specified value, and if less than, the next instruction will be executed else the next instruction will be skipped.

Load User Registers: This instruction gives the user the ability to load 4 user registers with values ranging from 0-65,535.

Increment User Registers: This instruction gives the user the ability to increment any of the 4 user registers by 1.

Decrement User Registers: This instruction gives the user the ability to decrement any of the 4 user registers by 1.

Wait: This instruction gives the user the ability to wait a given amount of milliseconds before executing the next instruction.

Section 3: SignIOwin Software

The SignIOwin software is a handy utility that supports Anaheim Automation's line of PCLIO-0808-USB IO module. Connecting your Windows computer to the PCLIO-0808-USB via the SignIOwin software can easily perform the following tasks:

- Exercise and monitor the PCLIO-0808-USB IO Board
- Write and edit stored programs for standalone operation
- Directly communicate with the PCLIO-0808-USB IO Board

Installation

Software

- The SignIOwin software can be found in the Downloads->Software section at www.AnaheimAutomation.com
- SignIOwin is compatible with Windows 98, 2000, NT, XP and Windows 7.

Getting Started

1) Click on the SignIOwin icon to run the SignIOwin application.

2) Apply power to the PCLIO-0808-USB controller.

3) Set the appropriate axis setting by selecting Setup | Axis from the menu bar.

4) Establish communications with the PCLIO-0808-USB by clicking on the Connect Icon and selecting the appropriate bluetooth IO.

Changing the COM Port Number of the USB Port

1) From DeviceManager, select "**Ports (COM & LPT)**". Select the USB Serial Port anc click **Properties**. Select the "**Port Settings**" tab, then click **Advanced**.

2) Choose the required COM port number from the list and click **Ok**

File Menu

New Program	Start editing a new program.
Open Program	Open an existing program from disk.
Save Program As	Save the current program to disk.
Exit	Exit the SignIOwin software.

Setup Menu

Connect	Establish communications with the controller.
Disconnect	Release the COM port for other devices to use.
COM Port Settings	Set the COM port to which the unit is connected to.
Axis	Set axis selection and stored axis of the controller.

Setup - Axis Menu

Select Axis	Sets the axis select parameter in the SignIOwin software. (1-99)
Define Axis	Sets the programmable address in the controller. (1-99)

Program Menu

Start Program	Start the execution of the program in the controller memory.
Stop Program	Stop the execution of the program in the controller memory.
View Program	View the program stored in the controller memory.
Clear Program Memory	Clear the program memory in the controller.
Autostart Program	Turn the autostart function on or off.

Program - Autostart Program Menu

Disable	Program will disable the execution of a stored program at power up.
Enable	Program will start execution when controller is powered up.

Edit Menu

Add	Adds a new line of code to the end of the progam.
Change	Edits the currently selected line of code.
Insert	Insert a new line of code before the currently selected line of code.
Delete	Deletes the currently selected line of code.

Help Menu

Error Coder Reader	Utility to read the error code generated by the PCLIO-0808-USB controller.
PCLIO-0808-USB User's Guide	Opens up the User's Guide in .pdf format.
www.anaheimautomation.com	Opens up the Anaheim Automation Website.
About	Displays the version of the SignIOwin and contact information.

"The Unit is Connected" / "The Unit is NOT Connected"

On the right of the Toolbar, the user will find the communication status of the PCLIO-0808-USB controller. If communications are not established, please refer to the Troubleshooting Section.

Toolbar

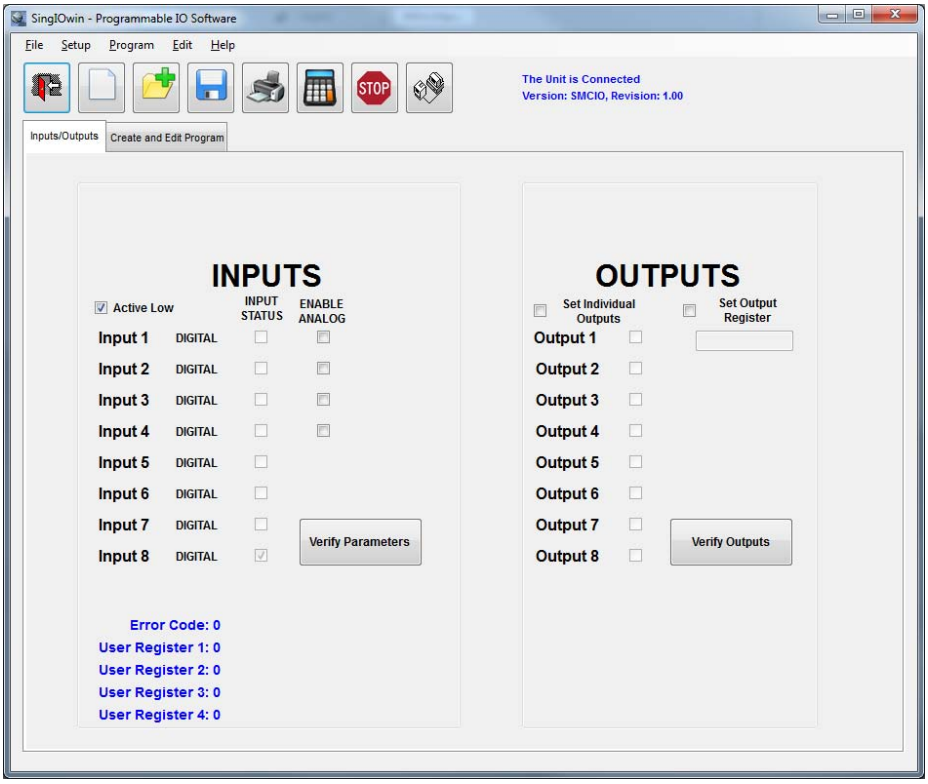
Exit **New** **Open** **Save** **Print** **Calculator** **Stop All** **Connect**

Exit	Exit the SignIOwin software.
New	Start editing a new program.
Open	Open an existing program from disk or directory.
Save	Save the current program to disk or directory.
Stop All	Stop the program and all motion from running.
Connect	Establish communication with the controller.

Tab Sheets

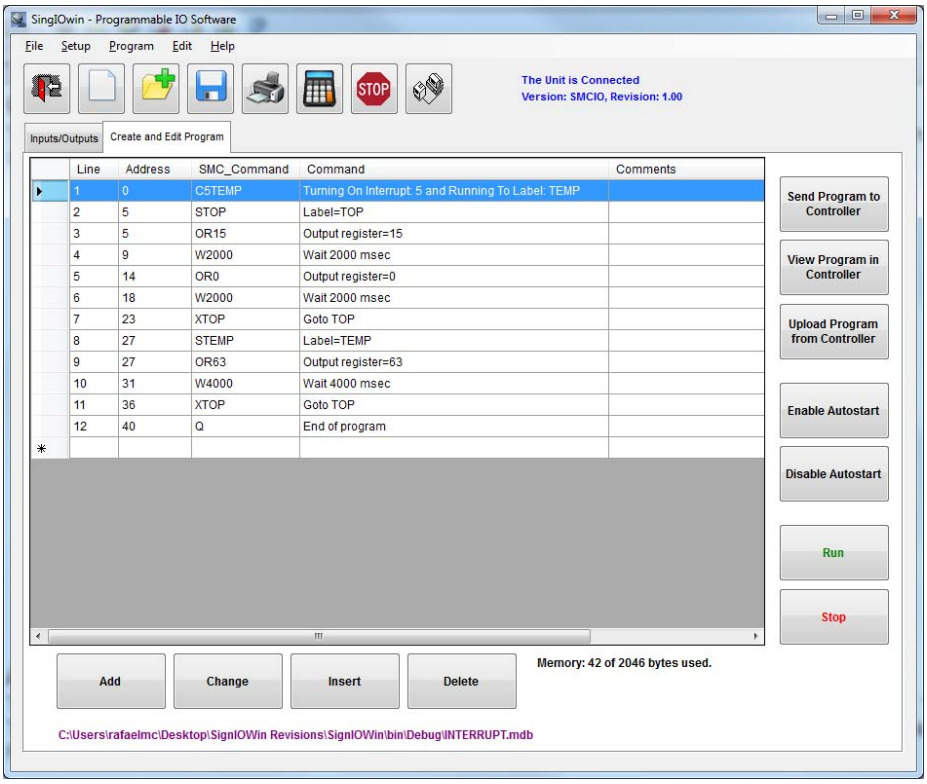
Inputs/Outputs	Monitor and control IO of the controller.
Create and Edit Program	Write and edit PCLIO-0808-USB stored programs.

Tab Sheets: Inputs/Outputs



Verify Parameters	Updates and displays input parameters, Current User Register Values, Error Code and Active state of inputs.
Set Inputs Active Low/High	Set the Inputs to be Active Low or Active High
Set Individual Outputs	Set individual outputs by clicking the corresponding output checkbox
Set all 8 Outputs	Set the outputs the a register by entering a value from 0-255
Verify Outputs	Updates and displays output parameters

Section 4: Create/Edit Program



Send Program to Controller	Send current program to the controller.
View Program in Controller	View program in the controller memory.
Upload Program in Controller	Upload the program in the controller for editing and saving.
Enable Autostart	Program will start when controller is powered up.
Disable Autostart	Program will only execute when run is clicked.
Run	Execute the program in the controller memory.
Stop	Abort program execution.
Add	Adds a new line of code to the end of the program.
Change	Edits the currently selected line of code.
Insert	Insert a new line of code before the currently selected line of code.
Delete	Deletes the currently selected line of code.

PCLIO-0808-USB Memory Available

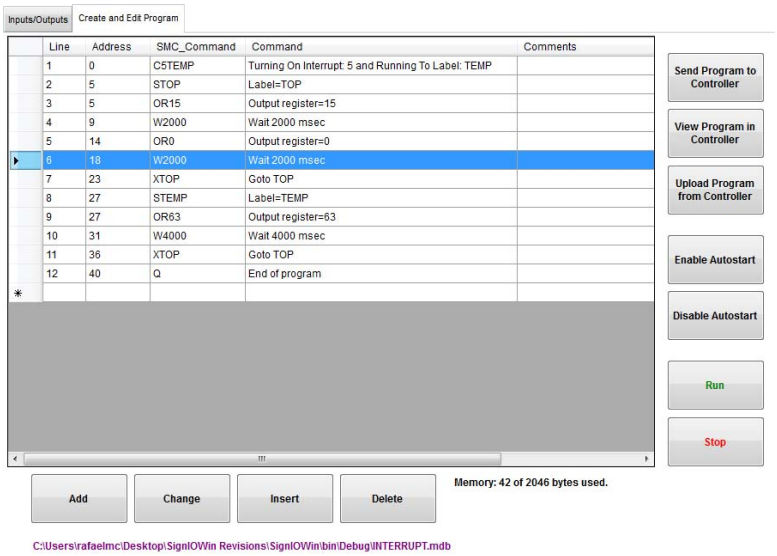
With the create and edit program window selected, the user can obtain the amount of available memory, located to the right of the Delete command button. The PCLIO-0808-USB has a maximum available memory of 2046 bytes - each instruction can use from 2 to 7 bytes.

Current Program Filename

With the create and edit program selected, the user can obtain the current program filename, located in the lower left corner of the SignIOwin window.

Currently Selected Line

The currently selected line is indicated in the program by the right pointing arrow/triangle in the left column. Clicking on any line will select a new currently selected line.



Add/Change/Insert Commands

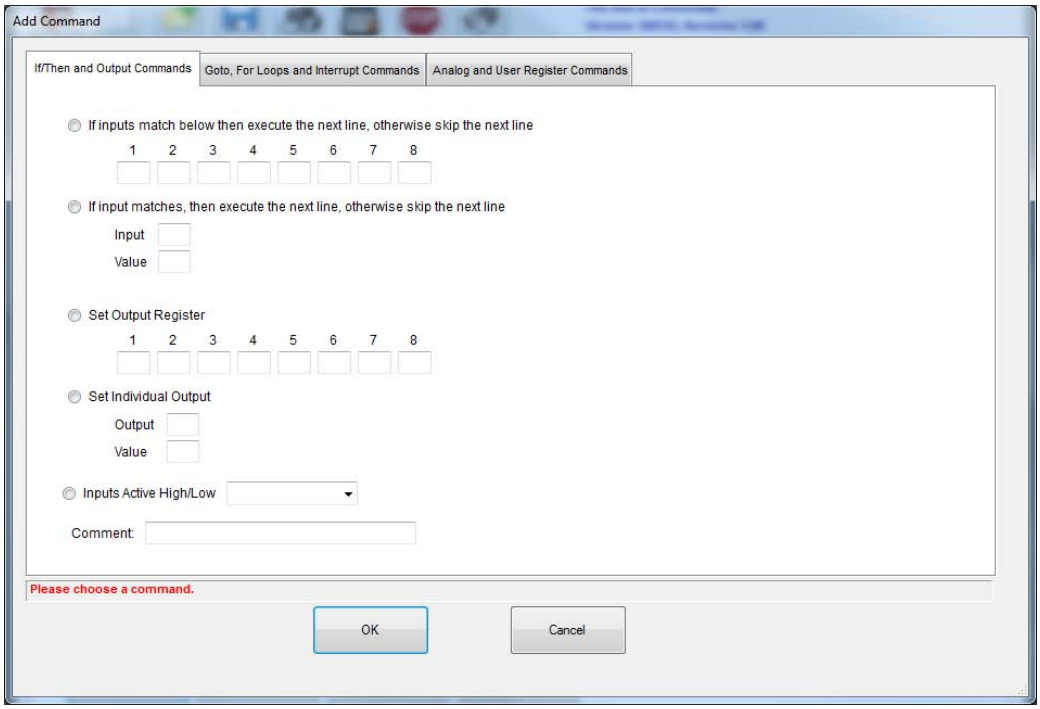
The Add/Change/Insert commands contain “If/Then and Output Commands”, “Goto, For Loops” and “Text Commands”.

If/Then and Output Commands	Software section that allows user to enter conditional commands, enable analog features and set the input/output features.
Goto, For Loop and Interrupt Commands	Software section that allows user to manipulate branching, looping and interrupt routines.

This window is where the program functions are selected to be added to or to change existing lines of programming code in the Create and Edit Program.

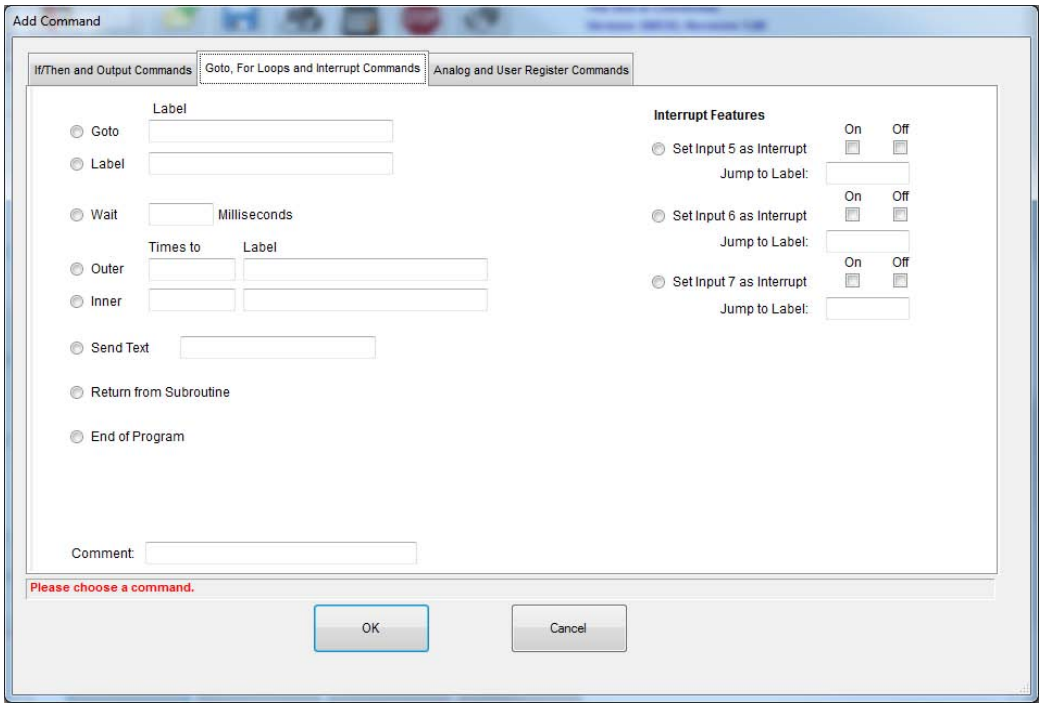
- To add a line, select appropriate command, and if required, enter the required value for that particular command. Then, click **OK**.
- Comment is optional, for any lines of code.
- The text box above the **OK** and **Cancel** buttons will display useful information about each command.

If/Then and Output Commands


Add Command
If/Then and Output Commands
Goto, For Loops and Interrupt Commands
Analog and User Register Commands
If inputs match below then execute the next line, otherwise skip the next line
1 2 3 4 5 6 7 8
If input matches, then execute the next line, otherwise skip the next line
Input
Value
Set Output Register
1 2 3 4 5 6 7 8
Set Individual Output
Output
Value
Inputs Active High/Low
Comment:
Please choose a command.
OK
Cancel

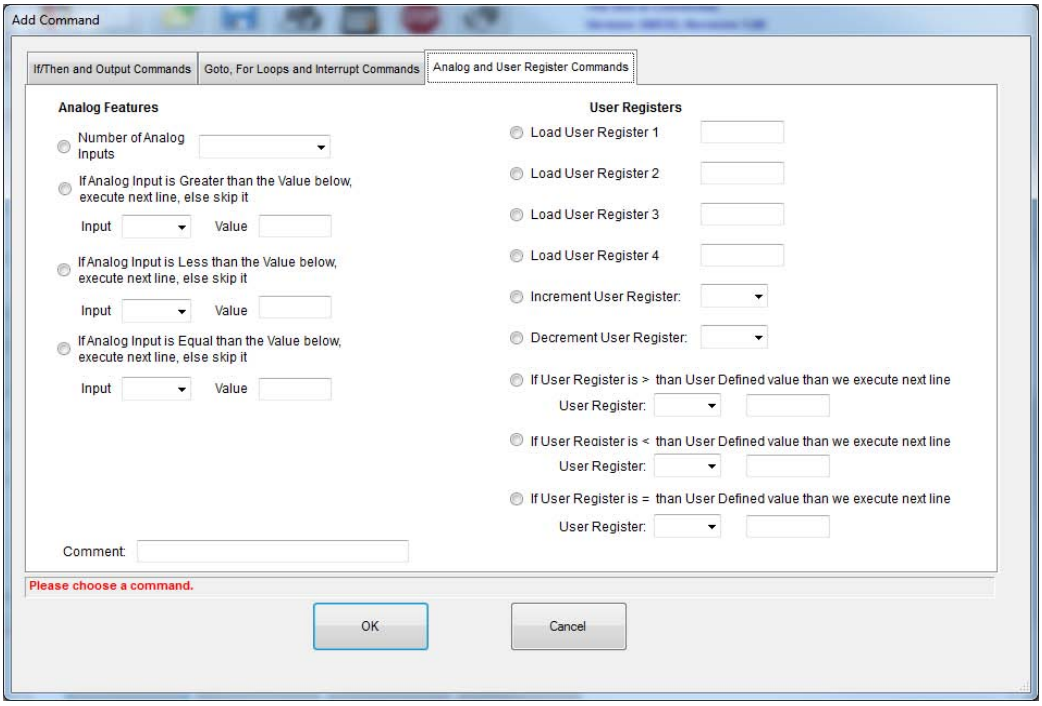
If inputs match below then execute the next line, otherwise skip the next line	This conditional command allows the user to execute the next line of code if the inputs triggered match the given value. If the inputs do not match, the next line is skipped.
If input matches, then execute the next line, otherwise skip the next line	This conditional command allows the user to execute the next line of code if the specific input triggered matches the given value. If the input does not match, the next line is skipped.
Set Output Register	This sets the outputs as a group by assigning each outputs a (on=1) or (off=0) value and triggers outputs all at once.
Set Individual Output	The outputs can be turned (on=1) or (off=0). These outputs can be used to trigger PCL operations, relays, solenoids, etc.
Inputs Active Low/High	This set the active state of the inputs if Active Low is selected a input is on if tied to ground or if Active High is selected a input is on if tied to 5V.

Goto, For Loops and Interrupt Commands



Goto	Command allows the program to jump to the specified label.
Label	Command inserts a label for goto and loop commands.
Return from Subroutine	Command will return to the last goto and execute the next line of code.
Delay	Command sets a time delay used for settling time needed after an index is finished: The delay occurs before the encoder count is read.
Outer Loop	Command allows a sequence of commands to be looped a specific number of times to a label. This label must be before the outer loop command.This command cannot be used within an inner loop.
Inner Loop	Command allows a sequence of commands to be looped a specific number of times to a label. This label must be before the inner loop command. This command can be used within an outer loop.
Send Text	This command will send up to 20 characters out of the unit at a Baud rate of 38,400 bps, 8 Data bits, No Parity, 1 Stop bit and No Flow Control
Set Inputs 5-7 as Interrupts	If on is selected for the input then we have activated the input as a Interrupt and will run to the desired label. If off is selected than input will just be digital.`

Analog and User Register Commands


Add Command
If/Then and Output Commands
Goto, For Loops and Interrupt Commands
Analog and User Register Commands
Analog Features
Number of Analog Inputs
If Analog Input is Greater than the Value below, execute next line, else skip it
Input
Value
If Analog Input is Less than the Value below, execute next line, else skip it
Input
Value
If Analog Input is Equal than the Value below, execute next line, else skip it
Input
Value
User Registers
Load User Register 1
Load User Register 2
Load User Register 3
Load User Register 4
Increment User Register:
Decrement User Register:
If User Register is > than User Defined value than we execute next line
User Register:
If User Register is < than User Defined value than we execute next line
User Register:
If User Register is = than User Defined value than we execute next line
User Register:
Comment:
Please choose a command.
OK
Cancel

Number of Analog Inputs	This changes the functionality of the first four inputs from strictly digital (ON/OFF) to analog (0-5 V). You can either have input 1, input 1-2, input 1-3 or input 1-4 be analog, you are unable to just have input 2 be analog without 1 being analog.
If Analog Input is Greater than the value below execute next line, else skip it	This compares the user specified voltage level of the input specified by the user and compares it to actual input. If the measured value is greater than the specified value than we will execute the next line, else skip the next line.
If Analog Input is Less than the value below execute next line, else skip it	This compares the user specified voltage level of the input specified by the user and compares it to actual input. If the measured value is less than the specified value than we will execute the next line, else skip the next line.
If Analog Input is Equal to the value below execute next line, else skip it	This compares the user specified voltage level of the input specified by the user and compares it to actual input. If the measured value is less than the specified value than we will execute the next line, else skip the next line.
Load User Register 1-4	These commands allow you to load any value from 0-65,535 in the corresponding register.
Increment User Register	This increments the selected user register by one
User Register < than	This command compares the current status of the selected user register with the user defined value, if the current value of the selected user register is less than the user defined value than we execute the next line else skip the next line.
User Register = to	This command compares the current status of the selected user register with the user defined value, if the current value of the selected user register is equal than the user defined value than we execute the next line else skip the next line. This is accurate up to 800 mV.

Goto, For Loops and Interrupt Commands cont...

Decrement User Register	This decrement the selected user register by one
User Register > than	This command compares the current status of the selected user register with the user defined value, if the current value of the selected user register is greater than the user defined value than we execute the next line else skip the next line.

Section 5: Direct Talk Mode

Direct mode is used to directly control motion for real time movements through serial communication. The PCLIO-0808-USB controller has 8 commands, which are easy to remember for direct movement of a step motor.

Unit Selection

In order to select a unit, the @ command followed by the address of the unit must be sent.
NOTE: There should be no spaces between the @ and address select.

How to select a unit:

@0 (Unit 0 is selected)
@1 (Unit 1 is selected)
@29 (Unit 29 is selected)

How to get a response from a unit:

@0$ (Carriage Return)

After the $ command, the PCLIO-0808-USB will return a SMC60 + the current revision number.
Note: In direct talk mode each command is followed by a carriage return.

The unit communicates in half duplex mode, therefore proper setup of hyper terminal is necessary to view characters, if characters are to be echoed back to the screen.

Instructions

All instructions require that no spaces be sent between the command and the parameter followed by a carriage return.

@0 not @ 0 correct: @0(carriage return)
incorrect: @ 0 (carriage return)

Command Summary:

I - Read inputs
O - Set outputs
V - Verify
! - Error codes register
$ - Version number
% - Verify axis number
~ - Set address of PCLIO-0808-USB
H - Inputs Active Low/High
D - Digital Inputs

D - Set Digital Inputs

Format 1: D[input]

Description: This command turns the currently activated analog inputs on pins 1-4 back into digital inputs. For instance if inputs 1,2 & 3 were currently activated as analog inputs, a D2 command will turn input 3 back into a digital input. If 4 inputs were activated as analog inputs, a D3 command will convert inputs 2,3 & 4 back into digital inputs.

Range:1 - 4

H - Set Inputs as Active High or Low

Format 1: H1 or H0

Description:

This command will set the state of your inputs to either active low (H1) or active high(H0). If you decide to set the inputs as active low then grounding your inputs will give you an on state and tieing your inputs to 5V will give you an off state. If you set inputs as active low then tieing inputs to 5V will give you an on state and grounding inputs will give you an off state.

Range:0 - 1

I - Read inputs

Format 1: IR

Description: This command returns the binary value of the inputs to the Bluetooth master. This command works with the Active low/high register of the inputs so they will return a high when they are open if in Active High or if in Active Low and ground ed. For example; if inputs are active low and grounded the command will return a 255. If all inputs are active high and grounded, the command will return a 0.

Format 2: I[input]

Description: This command returns the value of the selected input to the bluetooth master. If the Active High/Low register is set to High and the input is high it will return a 1, else if the input is low it will return a 0. If the the Active High/Low register is set to Low and the input is grounded it will return a 1, else if the input is high it will re turn a 0.

Range:0 - 8

! - Error codes register

Format: !

Description: This command requests the PCLIO-0808-USB controller to get the current error code and print it to the screen. For a description of the error codes see page 39.

$ - Version number register

Format: $

Description: This command requests the PCLIO-0808-USB controller to return its internal firmware version number.

O - Set outputs

Format 1: OR[value]

Description: This command sets the output register according to the binary value entered. Output 1 is the LSB and output 8 is the MSB.

Range: 0 - 255

Format 2: O[output]=[0 or 1]

Description: This command sets the selected output either on or off. A 1 will turn the output on (0VDC) and a 0 will turn the output off (open).

Range: 0 - 8

V - Verify

Verify Outputs
Format: 1 VO

Description: This command is used to verify the outputs state by return a value binary value from 0 -255.

Verify Analog Inputs
Format: 2 VA

Description: This command is used to verify how many inputs are activated as analog and will return a value from 1-4

Verify Inputs Active Low/High
Format: 3 VH

Description: This command is used to verify whether inputs are active low or high. A 1 is re turned if inputs are active low and a 0 if inputs are active high.

Verify User Register Value
Format: 4 VT[1-4]

Description: This command is used to verify the current value of the specified user register.

~ - Set address register

Format: ~[value] (No address is needed before this function. @~[value] will set the address)

Description: This command sets the address for communication inside the PCLIO-0808-USB controller.

Range: 0 - 99

Section 6: Troubleshooting

Problem:

Cannot establish communications with the PCLIO-0808-USB.

Possible Solutions:

1) Make sure the PCLIO-0808-USB controller has power. Is the Green LED on?
2) Check the Bluetooth connection.
3) Was the software installed successfully?
4) Go to **Setup | Axis** and verify address settings are the same.
5) Click on **Setup |Connect** icon to communicate with the PCLIO-0808-USB controller.
6) If problems still exist, contact Anaheim Automation Tech Support.

Anaheim Automation, Inc. Technical Support:	910 East Orangefair Lane Anaheim, CA, 92801-1195 phone: (714) 992-6990 fax: (714) 992-0471 www.anaheimautomation.com

Problem:

There is no power to the PCLIO-0808-USB controller.

Possible Solutions:

1) Is the PCLIO-0808-USB controller connected to the appropriate power supply?
2) Check for any blown fuses in line with the PCLIO-0808-USB controller.
3) If problems still exist, contact Anaheim Automation, Inc. Tech Support.

Problem:

My program won't "Autostart".

Possible Solutions:

1) Verify that the Autostart Function has been enabled.
2) Go to **Setup | Autostart Program** and Click on **Enable**.
3) If problems still exist, contact Anaheim Automation Tech Support.

Problem:

The PCLIO-0808-USB controller has a fault condition.

Possible Solutions:

1) Verify your program for improper syntax that may cause an error code.
2) Physically press the reset button on the PCLIO-0808-USB to clear an error.
3) Another way to clear an error is by using either the SignIOwin software or the direct mode command instructions set.
4) The SignIOwin can clear an error real time IO control window by clicking on the verify parameters button.
5) The direct mode command "!" can clear an error by simply prompting the error code register to return the value back to the bluetooth master.

Note: Read the Error returned to the screen to better understand what can be causing the fault condition. The error is returned in binary coded decimal format. If two errors were received, their binary values would be added together.

Error Codes

Error Code	Type	Description
1	Receive Overflow Error	The serial communications had a receiving error. This is an internal error caused by the computer.
8	Command Error	A bad command was sent to the controller. Please check to see that the command being sent is valid.
32	Range Overflow Error	The go to position has an overflow error. This is caused by the P command trying to find a position that is out of its range.
64	Range Error	There was an invalid number of commands and characters sent to the controller. Check to see if the parameters are invalid for the command that was sent.
128	Transmitt Error	To many parameters sent back to the PC. This is an internal error caused by the eeprom.
256	Mode Error	Controller is in a wrong mode. Some commands are good only in programming mode, while others are good only in direct mode. Check the direct mode section to see which commands are good in direct mode.
512	Zero Parameters Error	There were no parameters sent to the controller. A command was sent to the controller that expected to see parameters after the command.
2048	Memory Range Error	The specified address is out of range. This is caused by overflowing the program memory by having a program that is to large.
4096	Memory Com-mand Error	The command pulled from memory is invalid. The command that was stored into the eeprom was non executable by the program. This is an internal error.

Appendix 1: ASCII Table for Direct Mode

ASCII Symbol	Hex Value	ASCII Symbol	Hex Value	ASCII Symbol	Hex Value
0	30	J	4A	#	23
1	31	K	4B	$	24
2	32	L	4C	%	25
3	33	M	4D	“	27
4	34	N	4E	(	28
5	35	O	4F	+	2B
6	36	P	50	,	2C
7	37	Q	51	-	2D
8	38	R	52	.	2E
9	39	S	53	:	3A
A	41	T	54	;	3B
B	42	U	55	@	40
C	43	V	56	[	5B
D	44	W	57	]	5D
E	45	X	58	^	5E
F	46	Y	59	{	7B
G	47	Z	5A	}	7D
H	48	Carriage Return	0D	~	7E
I	49	!	21		

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